POPULATION TODAY

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School children all over the Western Hemisphere, like these in Mexico City, will soon commemorate Columbus' quincentennial. (See story page 4.)

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FROM THE EDITOR'S DESK

Yikes! We've had some changes in geography and country names before, but nothing like this. In the past, Dahomey became Benin, while the Yemens, Viet Nams, and Germanies reunited. Burma became Myanmar, Southern Rhodesia became Zimbabwe, and Ceylon chose Sri Lanka. But rarely have the world's cartographers and geographers been faced with the complications occasioned by the recent changes in the Soviet Union.

This business is of particular interest to PRB staff since recent developments must be reflected in the format of the *World Population Data Sheet*. The geographic treatment of the Soviet Union has always been a bit dicey at best. Development literature and statistics have treated the USSR as if it were a region, not a country. But, about one-fourth of the USSR's population lives in Asia (the traditional dividing line between Asia and Europe being the Ural and Caucasus Mountain ranges), the rest in Europe.

So what to do? As former constituent Republics become truly independent and listed as sovereign states on the *Data Sheet*, they must be put *somewhere*. The three Baltic states belong in Europe, but which part of Europe? Eastern? Northern? Moldavia and Georgia would clearly belong in Eastern Europe and Western Asia, respectively, but how about the rest of the former USSR?

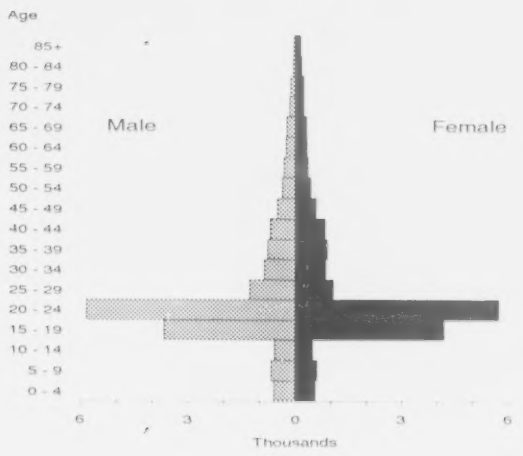
The simplest solution might be to continue showing the expected loose confederation of the remaining republics as we once did the USSR itself, i.e., as a region—but list the republics separately. This new group may yet emerge with a new name, such as the "Union of Sovereign States." That solution avoids the thorny problem of assigning parts of the country to Asia and Europe.

That said, on to Yugoslavia....

—Carl Haub

SPEAKING GRAPHICALLY

Portrait of a College Town



This 1990 population pyramid for Amherst, Massachusetts, captures the age structure of many college towns in the United States.

Source: Center for Massachusetts Data. (Inspired by the 1980 version of this pyramid, which appeared in *Demography: The Study of Human Population*, by David Yaukey.)

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Recycled Paper

South Korea's Low Fertility Raises European-Style Issues

Low fertility may lead Korea to drop its one-child-family incentives.

Women in South Korea now average fewer children during their lifetimes than do women in Europe.

As of 1987, the total fertility rate (TFR, or average lifetime births per woman) for South Korean women was 1.6 children—actually less than such low-fertility notables as Sweden, Norway, and France.

While declining fertility means less pressure on social resources, rapid drops raise new issues, as many European nations now attest. South Korea offers an intriguing first look at a developing country facing the challenges of below replacement fertility. It is an example of a less developed country with developed-country-style population issues.

At the current fertility level, South Korea's population will increase to about 50 million by 2020 and then begin a slow decline.[1] Slowing population growth will be welcome in a country which has gone from 85 percent self-sufficient in food in 1970 to only 42 percent today. In addition, by 2000, 90 percent of the country's energy needs will have to be imported. But an aging society must devote a rising proportion of income to medical care and some analysts fear a drop in competitiveness in the world labor market.

European countries in similar situations are resisting solutions that would alter their ethnic composition such as importing workers from the "South," and are discussing ways to raise their birth rates while continuing to recognize the changing role of women.

In addition to its well-known burgeoning economic success, South Korea has undergone a less-known demographic revolution in the past two decades—one that has completely transformed the country's demographic future. In 1960, South Korea's total fertility rate was about 6.0. By 1970, the TFR had dropped to 3.9, and, by 1987, to an astounding 1.6. With that, South Korea set a record for low fertility in a developing country. The extremely low birth rates of the Asian city states of Singapore and Hong Kong were achieved in an essentially urban context. In contrast, about one in five South Korean workers is still engaged in agriculture.

Family planning has been a strong component of South Korea's five-year plans since 1962. These programs featured strong government support and a large group of family planning workers, even in rural areas, with free contraceptives provided by private physicians. The sense of national urgency behind the program is understandable when we consider that South Korea must fit a rather large population, 43 million in 1991, into an area about the size of the state of Indiana.

The national population policy placed considerable emphasis on achieving high initial rates of contraceptive use. Unfortunately, high discontinuation rates resulted, which led to a large increase in the number of abortions. The number of abortions is equal to the number of live births in South Korea.

At this point, the government feels that the population problem has been solved and, in 1986, it reduced its annual sterilization target from 300,000 acceptors to 60,000 by 1991. In the future, except for poor families, emphasis will be placed on the delivery of services through private organizations and national medical insurance.

In addition, the following steps are being considered for a new national policy. One-child-family incentives, such as free maternity and health care for children under age six when couples agree to sterilization, may be dropped in favor of a two-child norm. An expansion of family planning programs to the unmarried as well as married is a possibility, along with laws designed to eliminate the continued preference for male babies. Finally, reorganization of delivery systems to encourage continuation of contraceptive use and reduce unwanted pregnancies is being discussed.

—Carl Haub

1. Nam-Hoon Cho, et al., "Recent Changes in the Population Control Policy and Its Future Directions in Korea," *Journal of Population, Health, and Social Welfare*, Vol. 10, No. 2, December 1990.

Census Update...

On September 10, Supreme Court Justice Sandra Day O'Connor backed the Secretary of Commerce's refusal to make public the Census Bureau's adjusted counts, unless forced to do so by a federal court order. California and Texas had gone to court, hoping to use those unofficial figures in their redistricting process. It is likely that O'Connor's decision will settle the adjustment controversy for the 1990 Census, since the court decision will probably not occur before most redistricting has been done.

But the politically charged issue of a differential undercount of minorities and city dwellers already haunts planning for the year 2000 Census. This spring, the Census Bureau hopes to test several methods to increase overall response rates and prevent a similar undercount.

Immigration to the Americas: 500 Years

The year 1992 will mark the quincentennial of Columbus' first landing in the Americas. As preparations to commemorate this event begin, we'd like to take the time here to reflect on how Columbus' voyage opened up the entire Western Hemisphere to massive waves of immigration that still continue. Although Columbus was not the first European to see the New World and the exact site of his landing is debated, his voyages led to exploration and permanent settlement without precedent in historic times.

Estimates of the population of the Americas on the eve of Columbus' arrival, range from 14-100 million people living in the Americas.[1] Cultures ranged from hunting and gathering tribes to the urban civilizations supported by irrigated agriculture of the Aztecs and Incas. Within a century, conquest and European diseases (especially smallpox, to which the natives had little resistance), reduced their populations to a mere fraction of that size. By 1600, about 250,000 Spaniards ruled over 9 million native peoples, according to the *Atlas of World Population History* by Colin McEvedy and Richard Jones.[2] Other authors suggest different numbers: 20-25 million for Mexico alone in 1519, a number which dropped to 1 million by century's end. No matter what the numbers were, one thing is clear: the European's first "gifts" to the population of the New World were oppression, famine, disease, and population reduction.

The slave trade further complicated this picture. Between 1510 and 1870, about 4 million Africans (from more than 30 million captured) were brought in chains as "involuntary immigrants" to the Caribbean and approximately 3-5 million to Brazil, compared with just one-half million to North America. (The importation of slaves was not outlawed until 1808 in the United States, and even then some illegal trade continued.) Today there are more than twice as many Brazilians of African descent than there are African Americans in the United States.

Mexico City barrio: all of our lives have been touched by Columbus

The only Europeans in this hemisphere in the 16th century were Spanish and Portuguese. Immigrants from other European countries arrived in North America in the 17th century. The Iberians had settled in the southern areas of today's United States, migrating from Mexico into the Southwest and Florida. The French and, subsequently, the English settled in Canada on the Eastern seaboard.

Immigration from Northern European countries arrived in both North and South America. The Mennonites, a German sect, founded not only Germantown, Pennsylvania, but German immigrants also founded the city of Blumeneau in southern Brazil. The Dutch established not only "New Amsterdam" (New York City), but also Suriname (Dutch Guyana) on the northeast coast of South America and the Dutch Antilles in the Caribbean. The British took possession of St. Kitts, Barbados, and Jamaica; the French, Guadeloupe, Martinique, and Haiti.

Asian countries that were in the sphere of influence of the British and the Dutch—India, Indonesia, and to a lesser extent China—also sent streams of immigrants. Today, as a result, the ethnic mix of Suriname is 37 percent Asian Indian, 15 percent Javanese, 41 percent black or creole, 3 percent Amerindian, 2 percent Chinese, and 1 percent European extraction.

Many Americans today trace their ancestry to the "Great Migration" of 1845-1914 which brought 33 million to the United States. Through similar flows, 9 million immigrants came to Latin America and 2 million to Canada.

Waves from the British Isles, Germany and Scandinavia, the Slavic countries of Central and Eastern Europe, and the Mediterranean (chiefly Italy) shaped the racial and ethnic composition of many countries in the hemisphere. The Irish who fled the potato famine in the mid-1880s landed not only in the United States, but also in Canada and in South America. Today there are Spanish-speaking families of Irish descent surnamed "O'Higgins" in Chile, and blond, German-speaking communities in Paraguay and Brazil.

Since the mid-1800s, about 12 million immigrants came to Latin America: about 4 million of Spanish descent, 4 million Italians, and 2 million Portuguese, with smaller groups of Germans and Poles.[3] Argentina, Brazil, and Venezuela were the main receiving countries. Significant Japanese minorities established themselves in Brazil and Paraguay.

Changing immigration regulations in recent decades have increased the diversity of Canada, particularly its urban population (as well as the more familiar case of the United States). In 1956, immigrants from the United Kingdom, Germany, and Italy made up more than half of Canada's total.[4] By contrast, in 1986, the countries of India, Viet Nam, Hong Kong, and Poland each sent more immigrants than did the United Kingdom. Between 1981-1986, Asia accounted for 42 percent, Latin America for 9 percent, and Africa

for 5 percent of Canada's immigrants.[5] Changing immigration laws also modified accustomed flows to the United States, so that in the 1980s, Asia and Latin America together accounted for 84 percent of immigrants.

—S.K.

1. See John D. Durand, *Historical Estimates of World Population*, Population Studies Center, University of Pennsylvania, 1974; and Nicholás Sánchez-Albornoz, *The Population of Latin America, A History*. Berkeley: University of California Press, 1974.

2. Colin McEvedy and Richard Jones. *Atlas of World Population History*. Harmondsworth, England: Penguin Books, 1978.

3. Norman Plotkin, "Economic Impact of European Migration to Latin America After World War II" in Sidney Klein, ed. *The Economics of Mass Migration in the Twentieth Century*. New York: Paragon House Publishers, 1987.

4. Minister of National Health and Welfare, *Charting Canada's Future. Ottawa, Ontario: Demographic Review Secretariat, 1989*

5. T. John Samuel. "Third World Immigration and Multiculturalism" in Shiva S. Halli, Frank Trovato, and Leo Driedger [eds.]. *Ethnic Demography: Canadian Immigrant, Racial and Cultural Variations*. Ottawa: Carleton University Press, 1990.

An Invitation to PRB's Awards Dinner

You are invited to celebrate PRB's 1991 Annual Awards Dinner, honoring outstanding contributions in the field of demography. The speaker will be Dr. Wesley C. McClure, president of Virginia State University, a distinguished mathematician and educational analyst who also serves on PRB's Board of Trustees.

Date: Thursday, October 31, 1991
Time: Cocktails (cash bar), 6:30 p.m.
Dinner and Awards Ceremony, 7:15 p.m.
Place: The Washington Hilton Hotel, Washington, D.C.

Awards Dinner tickets are $45 each, checks payable to PRB. Send requests to Population Reference Bureau, Attention: Colette Thomas, 1875 Connecticut Avenue, N.W., Suite 520, Washington, DC 20009.

Survey Report: Pakistan

Despite a national family planning program that began in 1965, Pakistan's population continues to grow at more than 3 percent annually.

Although the government has for years been trying to integrate the variable of population growth within the national development plan, population policy has been largely unsuccessful. Cultural and religious objections to family planning are considered the main obstacles to fertility reduction in Pakistan.

The recent Pakistan Demographic and Health Survey (PDHS), taken in 1990-91 and funded by the U.S. Agency for International Development (USAID) and the Government of Pakistan, interviewed 6,494 ever-married Pakistani women age 15-49. The PDHS was designed to provide accurate information on fertility, family planning, marriage patterns, breastfeeding, and child health to planners and policymakers in the country.

According to the survey, the average total fertility rate (TFR) for the six-year period prior to the survey edged down to 5.5 lifetime births per woman. If true, this represents a real watershed in Pakistani fertility, since previous surveys have reported that fertility remained stubbornly above six children per woman. The report suggests that the reported fertility decline was in response to both an increasing age at first marriage and a slightly higher level of contraceptive use.

The contraceptive prevalence rate (CPR) in Pakistan remains quite low compared with other developing countries in Asia. Only one in every five Pakistani women reports ever having used a contraceptive method. No single method has ever been used by more than 7 percent of married women.

The most common modern contraceptive methods currently in use are condoms (7 percent), pill (5 percent), female sterilization (3 percent), and the IUD and injections (3 percent). Male sterilization is almost non-existent, and knowledge of barrier methods (diaphragm, foam or jelly) is quite limited.

The country's contraceptive prevalence rate, among currently married women was 12 percent (9 percent using modern methods and 3 percent traditional methods). Among married women commonly using contraception, two methods stand out: female sterilization (3.5 percent) and condoms (2.7 percent).

The level of contraceptive use is much higher in major cities (31 percent) than in rural areas (6 percent). Married women with higher education are far more likely to use contraceptive methods (47 percent) than those with no formal education (8 percent).

About 37 percent of the currently married women interviewed reported that they did not want to have another child at any time in the future. An additional 18 percent said they want to delay childbearing for two years. Thus, it would seem that well over half of currently married women want to either space their next birth or stop childbearing altogether. This finding implies that these women comprise a considerable level of unmet need for family planning services.

Age at first marriage has been increasing steadily over the past decades. The proportion of women age 15-19 who had ever been married decreased from 38 percent in the 1975 Pakistan Fertility Survey to 26 percent in the 1984-85 Pakistan Contraceptive Prevalence Survey to 19 percent in the latest PDHS. Similarly, at age 20-24, the proportion of ever-married women decreased from 78 in 1975, to 71 in 1984-85, to 60 in 1990-91.

Overall, the survey results indicate that future strategies for fertility reduction in Pakistan might include efforts to raise the status of women, improve the access to education, change traditional attitudes toward large families and son preference, provide sufficient family planning services, as well as obtain strong commitments from government and community leaders for these policies.

—Jianbin Zheng

DEMOGRAPHER'S PAGE

Are Two Americas Emerging?

by William H. Frey

For much of the nation's history, national demographic trends were largely a result of trends in the white population. This is no longer the case. The 1990 Census confirmed that the U.S. is now one-fourth "minority" and that the non-Hispanic white population no longer unerringly reflects the nation's character. But there are two sides to this story: while changes in national-level trends increasingly reflect the statistical weight of minorities, there is a continuing geographic polarization between racial and ethnic minorities and the white "majority" population.

The initial results of the 1990 Census put the fast-changing U.S. minority group--comprised primarily of blacks, Hispanics, Asians, and Native Americans--further into the spotlight. Asians nearly doubled from 3.5 million to over 7 million and Hispanics grew from 14.6 to 22.4 million. The black increase was more modest, from 26.5 to 30.0 million. These changes accentuated geographic disparities between the minority population and non-Hispanic whites.

This article uses data from the 1980 and 1990 U.S. Censuses, analyzed at the University of Michigan Population Studies Center, to examine a decade of change in the distribution of minorities and non-Hispanic whites. (In the interest of brevity, "whites" as used in this article refers to non-Hispanic whites.)

These data show that the distribution of U.S. whites across geographic regions and metro areas is becoming increasingly dissimilar to that of faster-growing minorities. Specific minorities have always had a high degree of concentration: Cubans in Florida, Asians in California, Puerto Ricans in the New York area, blacks in the rural South and Northern cities, for example. But the recent increase in the size of these populations, coupled with decidedly different white distribution patterns, has served to accentuate these trends.

Regional and Metro Disparities

Whites are in the majority in each region of the country, but the size of the majority and its influence on statistics differs from region to region. Whites make up 83 percent of the North (Northeast plus Midwest regions). But that majority shrinks to 72 percent in the South and 67 percent in the West. To draw another sharp contrast, Hispanics make up just under one in ten persons across the nation, but about one in five in the West.

Minority gains are most heavily concentrated in the rapidly growing West region and in large metropolitan areas (those with 1990 populations that exceed 1 million). In fact, minority populations in large metropolitan areas in the West grew by 59 percent—almost twice the national minority rate. Each of the nation's three large minority groups are contributing to this pattern. More than half of U.S. Asians (55 percent) are found in the West, 45 percent of Hispanics, but only 19 percent of whites live in the West. Blacks are more concentrated in the South (54 percent live in the South) and North (37 percent). As Table 1 shows, minority growth was more than seven times that of whites and helped drive up the national growth rate to 9.8 percent. Immigration contributed to the growth of the minority population in all parts of the country. Latin America and Asia each contributed about 42 percent of new (legal) immigrants to the U.S. during the 1980s. Almost half of recent immigrants said that they intended to settle in California, Texas or Florida.

The white population, on the other hand, is distributed much differently across regions and metropolitan areas, and growth rates for whites are much slower. Whites are more heavily concentrated in the North, in smaller metros and in nonmetropolitan areas, and in suburban rings. The 1980s saw a modest shift of whites from the North toward the Sunbelt. That resulted largely from employment dislocations associated with various boom and bust areas. Sharply directed flows of elderly whites to selected retirement communities also occurred. Growth gains for U.S. whites were thus more modest and more evenly distributed across the South and West than minority gains.

In many ways, these 1980-1990 trends are not new, but are an outgrowth of patterns already apparent at the start of the decade. In 1980, the white population was disproportionately located in the slow-growth North, in small cities, and in nonmetropolitan areas.

Individual Metropolitan Areas

Metropolitan areas, where minorities tend to be concentrated, often show sharper change patterns than regions. Almost three-fourths of Asians (73 percent), 69 percent of Hispanics, and 58 percent of blacks live in large metros, while less than one-half of whites do (46 percent). This section looks at distribution and change patterns in 280 metropolitan areas in the United States and in the 39 metro areas with 1 million or more inhabitants.

Slow, dispersed change for whites. The white population increased in 191 metro areas, and declined in 89 areas. Five metros increased their white popu-

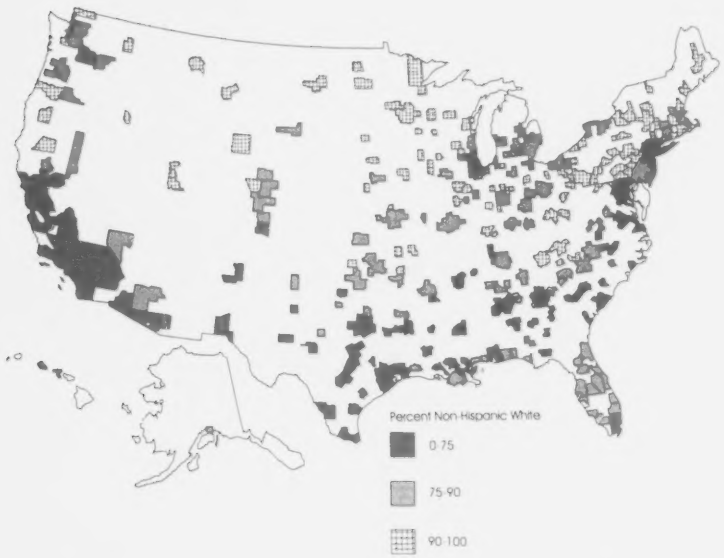
Table 1. Population Change by Region and Metropolitan Status, 1980-1990

	Percentage Change		
Region	White	Minority	Total
North*	-1.0	+22.2	+2.3
South	+9.5	+24.5	+13.4
West	+11.0	+53.4	+22.3
All U.S.	+4.4	+30.9	+9.8
Metro status			
Large metro	+3.8	+37.0	+12.1
Other metro	+7.1	+27.5	+10.8
Nonmetro	+2.4	+12.9	+3.9
All U.S.	+4.4	+30.9	+9.8

*Includes both the Northeast and Midwest Census Bureau regions. "Whites"= non-Hispanic whites.

William H. Frey is Research Scientist and Associate Director for Training at the Population Studies Center, The University of Michigan

Metro Areas with Fewest Whites, 1990



lation by more than 300,000 (Dallas-Fort Worth, Atlanta, Phoenix, Tampa-St. Petersburg, and Seattle). The increase exceeded 200,000 in 12 areas and 100,000 in 26 areas. Among the gainers are retirement and recreation centers (including six cities in Florida, Phoenix, and Las Vegas), large regional centers (Seattle, Minneapolis, and Denver), as well as Washington, D.C., Baltimore, Charlotte, Norfolk, Raleigh-Durham, and Austin. Some of these are also high-tech magnets. Significantly, several white gainers had heavily white populations to begin with (Minneapolis, Salt Lake City, and Portland, Oreg.). And, only three of the 26 large white gainers are California metros (San Diego, Los Angeles, Sacramento—all with white increases of 200,000 or more).

In terms of rates of white growth, cities in Florida (Naples, Fort Pierce, Ocala, Fort Meyers) led, along with Las Vegas—all increasing by more than half. Five more metros (four from Florida plus Austin, Texas) increased their white population by more than 40 percent.

Of the metros that experienced declines in their white populations, 31 lost more than 10,000. Five large Frostbelt metros lost more than 100,000. Of these five metros, New York had the biggest decline (-856,000), followed by Chicago (-190,000), Pittsburgh (-182,000), Detroit (-173,000), and Cleveland (-107,000). Six other large metros (Miami, Buffalo, New Orleans, Milwaukee, Boston, and Rochester) also lost white population. Most of the smaller areas where the white population declined were located in the Rustbelt and "Oilpatch" regions, midwest farming areas, and western mining areas. Still, 32 of the 89 metros that lost whites, gained in population overall as a result of minority growth. These included the larger metros, New York, Chicago, Miami, Milwaukee, Boston and Rochester.

Concentrated minority gains. While all but eight of the 280 metro areas studied showed some increase in their minority populations, the bulk of the gains were concentrated in nine large metropolitan areas. Characteristically, these were metros that either had large minority populations, served as ports of entry, or were traditional destination areas for blacks. The Los Angeles metro area, which is home to 12 percent of the nation's total minority population, garnered 20 percent of the nation's minority population growth in the 1980s—a gain of 2.8 million minority residents. Los Angeles, plus New York, San Francisco, Miami, Houston, and Dallas-Fort Worth, all with large initial minority populations, account for 46 percent of national minority growth. Three additional metro areas (Washington, D.C., San Diego, and Chicago) each increased their minority populations by more than 300,000 over the 1980s.

Even more dramatic *rates* of minority growth occurred, but rates can be misleading, since high rates can result from relatively small changes in numbers on a small base. For example, Wausau, Wisconsin experienced a 247 percent growth rate in its minority population during the 1980s; however, this represented a gain of only 2,472 people. In contrast, Chicago's minority growth of 14 percent during the decade represented an addition of 318,986 people.

Growth rate comparisons obscure the concentrated nature of minority growth. Minority growth rates exceed those for non-Hispanic whites in 258 of the 280 metro areas. Yet, in only 136 metros do minorities account for most

1990 Distribution Across Metros

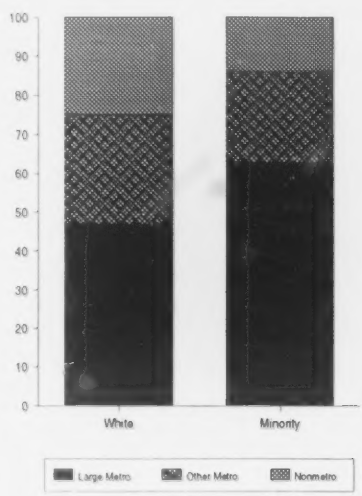


Table 2. Large Metros with Highest Percentages of Minorities

Rank	Metro Area	1990 Percent Minority	Change Since 1980
1.	San Antonio MSA	55.7	+2.8
2.	Miami CMSA	52.2	+13.2
3.	Los Angeles CMSA	50.2	+11.1
4.	Houston CMSA	42.1	+7.3
5.	New Orleans MSA	40.7	+3.1
6.	San Francisco CMSA	38.8	+8.3
7.	Washington, D.C. MSA	37.3	+4.4
8.	New York CMSA	37.0	+6.9
9.	San Diego MSA	34.6	+8.5
10.	Chicago CMSA	33.3	+3.5
11.	Norfolk MSA	33.3	+1.8
12.	Dallas-Ft. Worth CMSA	30.3	+6.1
13.	Atlanta MSA	29.8	+3.5
14.	Baltimore MSA	29.0	+1.3
15.	Sacramento MSA	26.8	+5.9

Note: MSA=Metropolitan Statistical Area; CMSA=Consolidated Metropolitan Statistical Area.

areas increased their minority share over the 1980s, but only 30 metros increased their shares by as much as 5 percent—most of these are located in the South and West.

Because of the concentrated nature of minority growth, minority composition varies widely across U.S. cities. Indeed 10 metro areas have "minority majorities" (where the "minority" population exceeds one-half). These include 5 small and moderate-sized Texas cities near the Mexican border, plus Honolulu, Las Cruces, San Antonio, Miami, and Los Angeles. An additional 69 metro areas with minority shares exceeding one-fourth are located largely in the Southeast, Southwest, and Pacific Coast States, along with a few large metros in the North and Eastern Seaboard.

But the vast majority (201) of the nation's metros house minority shares below 25 percent. In 97 of these the majority population share exceeds 90 percent. These majority-dominant metros are located primarily in the Northeast—west of the Eastern Seaboard, Midwest, and the Upper Mountain and Pacific Divisions. The four largest of these are Minneapolis-St. Paul, Providence, Pittsburgh, and Salt Lake City.

The Future

Looking to the future, should we expect to see the the United States majority and minority populations further differentiate themselves? The answer depends on whether or not current trends intensify. If present trends moderate, minorities would become more dispersed both across and within metro areas and regions. This could occur with greater assimilation of existing minorities and more emphasis on "skills" over "family" criteria for admitting immigrants to the country.

If current trends continue or intensify, we would see increasing disparity in distribution patterns between minority and white populations. Regional differences in age composition and income levels would sharpen.

At the extreme, two American residential norms would emerge both viable, but quite different in culture and style: the first, aging, largely white nonmetropolitan and small metropolitan communities in the Midwest; the second, young, vibrant, multicultural metro areas in the South and West. Such divisions exist only in embryo at this point. But even today's patterns have implications for regional political preferences, social services needed, and attitudes about major social issues, ranging from multilingual education to federal asssistance to homeless and poverty populations.

Natural Increase: The Beat Goes On

World population continues to grow at an unprecedented pace. In 1991 alone, about 93 million human beings were added to the globe. While experts differ on how foreboding such numbers are, most people are simply unaware of the magnitude of the increase.

World population (mid-1990)	5,383,886,000
Population growth rate	+ 1.7%
Total annual increase	92,543,000
Total daily increase	253,542
Total hourly increase	10,564
Total increase per minute	176

Here is a vivid way to convey the pace of world population growth for introductory population classes or presentations to organizations. First, procure a metronome—preferably one that is electronic and has a volume control. University music departments will often let you borrow one. At the beginning of the presentation, set the metronome to about 176 beats per minute (about 3 per second) and turn it on. You can ask the group to think about what each tick represents. (Frequently, someone will mistakenly guess that each tick is a birth.) Then, you can show some data on the board (see box; numbers from *PT*, July/August 1991).

Each tick represents neither a birth, nor a death, but a net addition birth that is not compensated for by a death.

Some groups find it particularly arresting to think that this ticking is continuous—occurring when they are eating, studying, and sleeping.

As an extension to this excercise you can show that most of this growth, about 164 beats per minute, is accounted for by population growth in developing countries (you can then set the metronome accordingly). The developed world is growing at about 12 ticks per minute—a setting that is not on most metronomes. You can also ask whether they think the ticking is getting faster or slower. The revelation that the pace is increasing, despite the slow decline in the world population growth rate, can lead to a discussion of exponential growth and population momentum.

—*Leif Jensen*

Leif Jensen is assistant professor of rural sociology at the Pennsylvania State University.

The Reader's File

...Aging successfully. Today's older woman is a pioneer, facing the challenges of aging in a society that has not yet come to terms with the issue, says a recent Urban Institute report. Components of successful aging include a self-perception of well being (including health, income, and housing), a capacity for independent activity, and a private safety net (including family and friends). Those who work with the elderly should shift from a preoccupation with symptoms of illness to an effort to maximize functional capacity.

Remarkable Survivors: Insights into Successful Aging among Women, by Alice T. Day. Washington, D.C.: Urban Institute Press, 1991. P.O. Box 7273, Dept. C., Washington, D.C. 20044. Phone: 301-459-3366. Cost: $42.75, cloth; $24.50, paperback.

...Increase condom use? Condoms are used less than half as often as they should be, leaving millions of people at risk of unwanted pregnancy, AIDS and other sexually transmitted diseases, a Johns Hopkins study estimates. In 1990, condoms were used in only about half the roughly 13 billion acts of sexual intercourse in which they were needed. The study recommends 30 ways to increase condom use.

Condoms—Now More Than Ever [1991], by Laurie Liskin, Chris Wharton, Richard Blackburn, and Philip Kesteleman. *Population Report* H-8, Population Information Program, The Johns Hopkins University, 527 St. Paul Place, Baltimore, MD 21202. Cost: $2.00. Phone: 301-654-6300.

...Impact of Gulf war on developing countries. The crisis in the Persian Gulf adversely affected many developing countries through spiking oil prices, loss of migrant worker remittances, and loss of export markets. In terms of proportion of the GNP, the war imposed costs of 31 percent in Jordan, 10 percent in Yemen, 5 percent in Turkey, over 3 percent in Sudan and the Dominican Republic, and over 2 percent in Egypt, Tanzania, Paraguay, Botswana, Jamaica, Mauritius, Chad, and Pakistan. An Overseas Development Council report, describes the situation through February, 1991.

"The Gulf Crisis: Impact on Developing Counties," in *Policy Focus*, 1991, No. 3. Overseas Development Council, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036. Phone: 202-234-8701. Cost: $2.00.

SOFTWARE

FIVFIV has long been a favorite at PRB and we're glad to see it improve with age. FIVFIV 10.0, just released, is the first PC-only version. Version 10.0 allows one to run both single and five-year projections in the same program. A welcome addition are the population pyramids (although not of "presentation" quality) for any or all of the 5-year dates of the projection. Projection results can also be output into a DOS text (ASCII) file format readable by spreadsheet or word processing software.

FIVFIV's new version incorporates the most recent model life tables at low levels of mortality (Coale and Guo, 1989), allowing for life expectancies up to 85.00 for females and 78.98 for males. Those levels, however, still limit FIVFIV's usefulness for developed country projections since many are reaching or near those life expectancies even now. This limitation can be overcome by inputing user-defined survival rates, however, a somewhat time consuming but not difficult process. The open-ended (oldest) age group is still set for "75 and over," a serious constraint when making projections for low mortality countries.

Other new features include improvements in input instructions, screen display, and the selection of a fertility model (Coale and Trussell, 1974).

Like the previous versions, FIVFIV allows you to perform long-range projections (more than 150 years), and sums the results of subregions or subgroups.

—M.Y.

Hardware requirements for FIVFIV are IBM-compatible computers with at least 256KB memory and one floppy disk drive. FIVFIV can be ordered for $25 from: Robert Sendek, The Population Council, One Dag Hammarskjold Plaza, New York, NY 10017.

POPULATION UPDATE

Estimated United States Population:

As of June 1, 1991	252,377,000
As of June 1, 1990	249,714,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, P-25, no. 1076.

Estimated World Population:

As of October 1991	5,407,000,000
Annual growth	93,000,000

Extrapolated from the mid-1991 population on PRB's *1991 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: May 1991

	12 months ending with May					
	Number		Rate			
	1991	1990	1991	1990	1989	1988
Live births	4,143,000	4,103,000	16.4	16.4	16.0	15.7
Deaths	2,148,000	2,165,000	8.5	8.7	8.7	8.9
Natural increase	1,995,000	1,938,000	7.9	7.7	7.3	6.8
Marriages	2,419,000	2,437,000	9.6	9.8	9.7	9.7
Divorces	1,175,000	1,174,000	4.7	4.7	4.8	4.8
Infant deaths	37,800	38,700	9.1	9.5	9.8	10.1

Note Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births

Source *Monthly Vital Statistics Report* (vol. 40, no 5) from the National Center for Health Statistics.

World Population Data Sheet in French

The Institut national d'etudes démographiques (INED) has once again made PRB's 1991 *World Population Data Sheet* available in French. The July-August issue of *Population & Sociétés* (Number 259) is devoted to the data sheet in 8 1/2 x 11" format.

Additional charts rank 31 countries along 12 major population indicators. For example, here are the first five entries of a 31-country chart showing the projected population in the year 2025. (The statistical notation has a European flavor.)

	Millions
1. Chine	1.590,8
2. Inde	1.365,5
3. U.R.S.S.	363,0
Europe des Douze	348,3
4. Etats-Unis	333,7
5. Nigéria	305,4

INED publishes the data sheet each year. PRB produces a French edition every other year, with the next one scheduled in Spring 1992. To obtain *Population & Sociétés*, No. 259, contact the Institut national d'études démographiques, 27, rue du Commandeur, 75675 Paris, Cedex 14. Fax: 33-1-43-27-72-40. Cost: FF 4,70 (about $1.00).

Population Handbook Updated

The Population Reference Bureau has just updated and expanded its classic *Population Handbook* in a third edition. The *Handbook* offers a clear guide to demographic basics (such as definitions of all major rates and ratios). Available in both a U.S. and an international version, the *Handbook* now includes new sections on race and ethnicity and households and families. A revised Spanish-language third edition is forthcoming, and the French-language second edition (adapted for Francophone Africa) is still available.

PRB's *Population Handbook*. Single copy: $5.00; discounts for multiple orders. To order, contact the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Washington, DC 20009-5728, 1-800-871-9881.

TAKE A NUMBER

Measuring national progress. Any number of statistical yardsticks have been developed to measure a country's social progress—none of them completely satisfactory. The Human Development Index, developed by the United Nations Development Programme, is one of the more recent. This index is similar to past efforts, such as the Overseas Development Council's Physical Quality of Life Index (PQLI). The HDI uses three basic components, longevity, education, and income. The index is constructed by comparing a country's reported value on one of the variables used, such as life expectancy, to the range of maximum and minimum values worldwide. This yields a measure of the country's "relative deprivation" on the measure. Education is evaluated by using literacy and years of schooling while national income was measured using real Gross Domestic Product.

The results of the HDI analysis, published in the UNDP's *Human Development Report, 1991*, for the top and bottom 10 countries are listed below:

Top Ten			Bottom Ten		
Rank	Country	Score	Rank	Country	Score
1.	Japan	.993	151.	Guinea-Bissau	.088
2.	Canada	.983	152.	Chad	.087
3.	Iceland	.983	153.	Djibouti	.083
4.	Sweden	.982	154.	Burkina Faso	.081
5.	Switzerland	.981	155.	Niger	.079
6.	Norway	.978	156.	Mali	.072
7.	United States	.976	157.	Afghanistan	.069
8.	Netherlands	.976	158.	Guinea	.066
9.	Australia	.973	159.	Gambia	.064
10.	France	.971	160.	Sierra Leone	.048

Obviously, the index is quite sensitive to national life expectancy and GDP estimates; a glance at PRB's 1991 *World Population Data Sheet* will verify, for example, Sierra Leone's low life expectancy. The measure may be somewhat useful in comparing countries' progress on the measure over time. From 1970 to 1985, for example, Saudi Arabia's HDI improved by 0.343, while Malaysia's rose by 0.290. At the other end of the scale, Jamaica's decreased by 0.022.

ADDENDA

CURRENT READINGS

POPULATION POLICIES AND PROGRAMMES: LESSONS LEARNED FROM TWO DECADES OF EXPERIENCE edited by Nafis Sadik, New York: United Nations Population Fund, 1990. 464 pages, $50.00 (hard cover), $17.50 (paper).

The history of organized program efforts to promote the practice of family planning is a relatively short one. This volume, under the editorship of Nafis Sadik, director of the UN Population Fund, identifies a broad base for joint programming and interagency cooperation so that resources can be more effectively mobilized at the global, national, and regional levels. This study consists of three in depth reviews in population policy development: (1) maternal and child health, (2) family planning, and (3) population information, education and communication.

Until a few decades ago, countries rarely expended public resources to assist individuals who wished to control their fertility. As a result of expanded services, contraceptive prevalence in the developing world has risen from 9 percent in the early 1960s to 48 percent in 1987 (as compared with 71 percent in developed countries). Given today's population momentum, maintenance of these rates would require the total number of protected couples in the world to increase by almost 100 million, from 459 million to 559 million by the year 2000. In less developed countries (with the exception of China), an average of 20 percent of married women do not want another child but are not using contraception. Rates of contraceptive use could increase greatly if services become available to these women.

Since most of the growth in population occurs in the developing countries, more than 90 percent of the increase in numbers of protected couples must be achieved there. To lower the TFR (total fertility rate, or average lifetime births per woman) to 3.3 in developing countries by the year 2000—a goal in accord with the United Nations medium variant population projection—contraceptive protection would have to increase from 326 million couples in 1987 to 493 million by 2000. Great progress has already been made and this drastic increase in the number of new users is believed to be achievable if the necessary political support and resources are applied.

A few management ideas stand out: firm political support by government is essential to successful national population programs. Population information, education, and communication must increasingly be employed for building and maintaining awareness of population issues not only among leaders but the public as well. On the other hand, reliable and recent socioeconomic and demographic information is vital for successful education programs and strategic planning of family planning programs. Improving the role and status of women is a key element for success.

Programs work best when specially adapted to particular social and cultural settings as occurred in Indonesia. It is possible to coordinate population policy formation with development planning, as happened in Mexico and Thailand. And, quality data and analytic capacity make it possible to assess program success reliability, as demonstrated in Indonesia and Tunesia.

The study offers various regional perspectives. It shows the national trends, constraints, and favorable aspects of population programs in Sub-Saharan Africa, the Arab States, Asia and the Pacific, and Latin America. It also reveals programmatic issues specific to each region. Sources include published and unpublished research, along with project and programming experience, accumulated in UNFPA archives since 1969. Population Policies and Programmes will be of interest to anyone involved with population policy.

—Farzeneh Roudi

FEEDING TOMORROW'S WORLD, by Albert Sasson. Paris: United Nations, 1990. 805 pages. $56.25, ISBN 92-3-102083-8.

This handbook, published by UNESCO, provides in-depth, technical information relating to world food supply and hunger. Sections cover nutrition, agricultural production, and international food aid. Sasson states that the book is geared toward the layman as well as the specialist. It is an appropriate reference tool for professionals and students of international agriculture and economic development.

The book discusses several major issues: what is really necessary for basic nutrition of adults and children in less developed countries; effects of malnutrition on health and well-being; food production and technological advances; environmental factors of agriculture; and prospects for the future eradication of hunger.

One section discusses the evolutionary basis for breastfeeding which explains the development of its contraceptive effects. Sasson points out that the hunter-gatherers had an average gap between births of 4.1 years. He attributes this relatively large average gap of birth spacing to lengthy breastfeeding by these women. The survival value is obvious: women who had to physically carry more than one infant at a time would have found their movements severely restricted.

Sasson concludes by stating that hunger is not merely a technological problem, rather, the greater part of the problem is political in nature. He recommends more research in agriculture, improving marketing networks, and increasing the accessibility of loans to developing nations.

—Minki Chatterji

SPOTLIGHT

India

(Part 2 of 2)

Population (1991): 859,200,000
Total area: 1,269,340 sq. mi.
Population density: 677 persons/sq. mi.
Births per 1,000 population: 31
Deaths per 1,000 population: 10
Rate of natural increase: 2.0 percent
Total fertility rate: 3.9 children per woman
Infant mortality rate: 91 per 1,000 live births
Life expectancy at birth: 57 years
GNP per capita: $350
Capital: New Delhi

by Jianbin Zheng

While a notable decline in fertility has occurred in India over the past two decades, especially in certain regions, the sheer size of India's population, plus the "momentum" resulting from a relatively large proportion of women in the childbearing ages, assures relatively rapid growth. India now grows about 2 percent per year, adding 17 million annually—about the equivalent of adding the total population of Australia every twelve months.

India's crude birth rate had hovered around 42-44 per 1,000 population per year in all of the states throughout the 1960s. Growth rates were highest during the decade 1961-1971, when the population grew by 25 percent, a figure that was essentially matched in the following decade. The 1991 Census, however, suggests the beginning of a slowdown. It showed only a 23.5 percent increase over 1981-91 period. In absolute terms, the population increased by 161 million between 1981-91.

Between 1961 and 1986, the national crude birth rate declined by 25 percent; nearly three-fourths of the decline occurred in the mid-1970s. India's total fertility rate fell from 5.8 in 1960-1964 to 4.2 in 1986 with more rapid declines occurring in southern states than in the North. An effective national family planning program contributed to this largest-ever fertility decline in India. The proportion of the national budget devoted to family planning programs more than quadrupled—from less than 0.5 percent in the 1960s to 2 percent in the 1970s. Family planning programs are thought to have averted over 85 million births between 1956 and 1986. It is further estimated that as of March 1987, 55 million Indian women, or about 40 percent of married women age 15-44, were using a modern method of contraception.

Despite the increasing use of family planning services (albeit unevenly from state to state) and an increasing age at marriage, the nation's crude birth rate remains above 30 births per 1,000 population. Only 11 percent of the Indian population lives in states where the crude birth rate is below 25; over 40 percent of the total population lives in states where crude birth rates are in the mid and upper 30s.

The big question, of course, is when—and if—India's fertility will fall to the "replacement" level of two children per couple. World Bank projections show that if India reaches the two child family by 2015, it will grow to 1.9 billion, possibly taking China's crown as the most populous country.

India's population remains relatively young—36 percent are under age 15. Marriage rates are also extremely high, and many social and cultural norms encourage large families. Further fertility declines, therefore will largely rely on the vigor of family planning programs, and especially on efforts targeting young couples. Such programs would have to be accelerated over the next two decades in order to curb India's burgeoning population growth.

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